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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/785,232	02/20/2001	Giro Hirai	1086.1138/JDH	4358

21171 7590 01/30/2004

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EXAMINER

SHRADER, LAWRENCE J

ART UNIT	PAPER NUMBER
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2124

DATE MAILED: 01/30/2004

4

Please find below and/or attached an Office communication concerning this application or proceeding.

P29

Office Action Summary

Application No.

09/785,232

Applicant(s)

HIRAI ET AL.

Examiner

Lawrence Shrader

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "Automatic Firmware Version Upgrade System"

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 – 6, and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Lerche, U.S. Patent 6,457,175.

Lerche discloses a software upgrading system:

In regard to claim 1:

"a reception unit which receives resource information transmitted through a network and constituted by a resource and an application program which applies the resource and storing the resource information in an operation region of a storage device;"

Lerche discloses a reception unit, which receives resource information (an application program) over a network and stores the information in an EEPROM (column 3, lines 3 – 8).

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"a decision unit which decides whether an application occasion of the resource has come or not;"

Lerche discloses a step to determine if the application has been loaded into the EEPROM (column 5, lines 7 – 12; column 8, lines 21 – 25).

"an execution unit which, when it is decided that the application occasion has come performs a process of copying the resource information in a maintenance region of the storage device and making the maintenance region valid in the next boot-up operation of a system."

Lerche discloses that the application is copied to a valid RAM region for boot-up (column 6, lines 7 – 11, 35 – 60).

In regard to claim 2, incorporation the rejection of claim 1:

"...wherein, when the application program is started in response to the boot-up operation of the system, the application program performs a process which makes the operation region valid in the next boot-up operation of the system."

Lerche discloses that the system is reset and the appropriate image is selected for boot-up (column 8, lines 39 – 41).

In regard to claim 3, incorporating the rejection of claim 2:

"...wherein the application program performs a process of rebooting the system after the application process of the resource and when the application process is failed."

Lerche discloses that the device is able to perform reboot if the upgrade software fails (column 3, lines 45 – 54).

In regard to claim 4, incorporating the rejection of claim 1:

"...wherein the application program performs a process of deleting a resource information of which is completed application from the operation region and the maintenance region."

Lerche discloses that the old application image is written over (column 5, lines 1 – 4).

In regard to claim 5, incorporating the rejection of claim 1:

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"...comprising a management mechanism, constituted by a hardware and operated by a power supply other than that of the computer body, which receives process time information issued by the application program and monitoring the process time information to monitor the operation of the application program."

Lerche discloses a management mechanism involving the ISP (a hardware operated by a power supply other than the computer body), which detects a timeout if the new software fails its connection test (column 8, lines 47 – 60).

In regard to claim 6, incorporating the rejection of claim 5:

"...comprising: an update unit which performs a process of making the operation region valid in the next boot-up operation of the system when an abnormality of the application program is detected;"

The update unit will reset the system if an abnormality is found (column 8, lines 54 – 60).

"a reboot unit of performing a process of rebooting the system subsequent to the process of the update unit."

The unit may be rebooted after the software is updated (column 7, lines 35 – 38; column 9, lines 6 – 12).

In regard to claim 9 (a computer readable recording medium), it is rejected for the same corresponding reasons put forth in the rejection of claim 1 (a computer) above.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

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such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lerche, U.S. Patent 6,457,175 in view of Saville et al., U.S. Patent 6,493,781 (hereinafter referred to as Saville).

In regard to claim 7, incorporating the rejection of claim 5:

"...wherein the management mechanism further comprises an invalidating unit which invalidates a power supply disconnection request and a reset request for the computer body issued during the operation of the application program."

Lerche teaches a software upgrade management mechanism that monitors operation of the application program, but does not teach that any system request is invalidated during the operation of the application program. However, Saville teaches an interrupt reset that disables further interrupts until an updating is complete (column 4, lines 55 – 56). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to combine the management mechanism as taught by Lerche with the interrupt reset feature of Saville, because the combination allows the Lerche invention to suspend interrupts or other requests until the application has completed its upgrading function as taught by Saville (column 4, line 56).

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lerche, U.S. Patent 6,457,175 in view of Craig et al., U.S. Patent 6,266,809 (hereinafter referred to as Craig).

In regard to claim 8, incorporating the rejection of claim 5:

"...wherein the management mechanism further comprises a notification unit which notifies a distribution source of the resource of application failure of the resource when an abnormality of the application program is detected, when an abnormality notice is received from the application program, when the power supply of the computer body is disconnected during the

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operation of the application program, and the computer body is reset during the operation of the application program."

Lerche teaches a software upgrade management mechanism that monitors operation of the application program, but does not teach a notification unit that notifies the distribution source of an application failure. However, Craig teaches a failure notification feature in a firmware upgrade system (column 6, lines 52 – 59). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to combine the management mechanism as taught by Lerche with the failure notification system as taught by Craig, because the combination allows the Lerche invention to check for upgrade failures thus giving the system an opportunity to retry the upgrade and test again for success as taught by Craig (column 6, lines 52 – 54).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

U.S. Patent 6,092,190 to Lee, regarding reprogramming of a memory device.

U.S. Patent 6,275,931 to Narayanaswamy et al., regarding upgrading firmware boot and main codes.

U.S. Patent 6,625,809 to Duff, regarding reprogramming application software in a microcontroller.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Shrader whose telephone number is (703) 305-8046.

The examiner can normally be reached on M-F 08:00-16:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (703) 305-9662. The fax phone number for the organization where this application or proceeding is assigned is (703) 746-7239.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Lawrence Shrader
Examiner
Art Unit 2124

January 12, 2003

Kakali Chaki
KAKALI CHAKI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100